

Pandemic in the 21st Century: Sector Specific Experiences

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Abstract: Pandemics can be defined as contagious disease outbreaks that can result in huge disruptions- be it political, social, or economical. In the past 100 years, several factors have led to a higher risk of pandemics in the world; these factors can be seen as modernization and urbanization, overuse of our available natural resources, and highly globalized trade and lifestyle (Jones et al., 2008; Morse, 1995). Researchers and policy-makers have attempted to gain in-time identification and assessment of emerging catalysts, and further try to limit their outbreak (Smolinsky et al., 2003). Plans have also been in motion with the aim to expand and maintain infrastructural capabilities in healthcare. Thankfully, many international donors today have invested in preparedness measures, especially focusing on creating better standards of healthcare in terms of both quantity and quality (Wolicki et al., 2016). However, it must be understood that despite such foresight and planning, several gaps and hurdles have been in the way of a pandemic preparedness at the global level. Several nations around the world are unable to meet to even the most basic standards to comply with the International Health Regulations (Fischer & Katz, 2013; WHO, 2014).

Keywords: Pandemic, experiences, contagious disease, political, social, economical

In the past, outbreaks such as Ebola epidemic in 2014 have laid bare the many gaps and challenges in world's capabilities to identify emerging pandemics in a quick, efficient manner. Some of these glaring gaps include a lack of basic facilities such as contact tracing, isolation facilities, quarantine preparedness, lack of adequate training etc. (Moon et al., 2015; Pathmanathan et al., 2014). It is relevant to study and fill these gaps, because these challenges can only increase difficulties in emergency situations- particularly in areas with limited resources. Challenges like these can be disruptive even in locally-contained outbreaks, let alone a fully-grown global pandemic.

According to Porta (2014), an epidemic is defined as "the occurrence in a community or region of cases of an illness . . . clearly in excess of normal expectancy". Furthermore, a pandemic is defined as "an epidemic occurring over a very wide area, crossing international boundaries, and usually affecting a large number of people". Hence, Pandemics are known more in terms of their geographic scale instead of the severity of illness. While pandemics have been occurring throughout our recorded history, in recent times, they have increased in their frequency, mostly attributed to emergence of contagions from animals. There are two factors that determine the emergence of a pandemic, i.e. - spark risk (where a pandemic is likely to arise) and spread risk (how likely it is to diffuse broadly through human populations).

There are many immediate and long-lasting consequences to pandemic. The first impact is on human populace, as per the rates of morbidity and mortality. Next, an economic impact- determined by economic damage caused through several industrial shocks, fiscal disruptions and negative economic growth. In terms of psychological impact, human behavior also changes after a pandemic- there is a heightened risk-aversion, fear of public gathering places- such as workspaces or theatres- can also cause further negative downturns. Political consequences are also faced wherever the political leadership is weak or imbalanced, resulting in stress upon the institutions of governance. In many cases, pandemics and subsequent control measures such as quarantines have led to civil disobedience and instability- causing violence and tensions among the public and the State.

Origin of Pandemics:

Most new pandemics seem to begin through the "zoonotic" transmission of pathogens from animals to humans (Murphy 1998; Woolhouse and Gowtage-Sequeria 2005). Zoonoses gain entry into human society through both domesticated animals (for instance, farmed swine or poultry) and wildlife. Several historically significant zoonoses were introduced by growing human-animal interaction after domestication, and many potentially high-risk zoonoses (also includes avian influenzas) continue to emerge from livestock production systems (Van Boekel and others 2012; Wolfe, Dunavan, and Diamond 2007). Some pathogens (including Ebola) have emerged from wildlife reservoirs and got into human populations through the hunting and consumption of wild species (such as bushmeat), the wild animal trade, and other contact with wildlife (Pike and others 2010; Wolfe, Dunavan, and Diamond 2007).

Coronavirus Disease 2019

COVID-19 is an infectious disease which is a result of a severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). This form of the disease was first correctly identified in December 2019 in the capital of

Hubei province in China, a city named Wuhan. In the roughly five months since its correct identification, the disease has grown to the scale of a complete global pandemic. The nature of the pandemic spread is like a wave, and unfortunately, it might still crash over those who are the least equipped to cope with it. However, it must be kept in mind that COVID-19 is not merely a health crisis, it is also a humanitarian one. The pandemic has stressed out the resources of every nation it has gripped under it: today, many countries are fighting hard against the onslaught of social, economic and political consequences of this virus.

Furtherer wreaking much havoc on the healthcare systems of these countries, COVID-19 has at least given breathing room for countries like Italy and Spain, where new cases seem to have flattened. However, there is still rapid emergence of new cases and accelerated rate of deaths in UK and USA. In the UK, there have been more reported deaths than in the epicenter of the virus, China. Similarly in US, the country's healthcare system is under heavy strain. There are reports of patient toll mounting to the rate where hospitals have run out of beds. New York Governor Cuomo enlisted the National Guard to seize and redistribute any ventilators and PPEs-personal protective equipment from facilities in the state. In cases like Florida, new cases have emerged every day in hundreds, and strict stay-at-home orders have been issued.

Another issue faced by all countries is testing facilities. In UK, following intense criticism of the lack of testing adequacy, PM Johnson and health secretary Hancock has announced a pledge to have 100k people in England tested per day by the end of the month of January. Among those tested, the number of covid-19 cases has already crossed the millionth mark. It is however suspected that the actual number of cases will be much higher. This pandemic is estimate to be the toughest for the world's poorest section, which includes people in slums or in refugee camps. UN Secretary General Guterres launched a US\$2 billion global humanitarian response plan aiming to help the most vulnerable sections of our world today. Developing countries could lose at least US\$220 billion in income, and the United Nations Conference on Trade and Development has called for US\$2.5 trillion to support them. It is in immediate interest that every country must act at once to prepare, respond, and recover.

Impact of Coronavirus on Health:

There are 823626 confirmed cases at the global level and 40598 deaths (WHO Situation report -72). Several public health measures have been taken up by individuals (including volunteers), communities, government and nongovernment institutions, and all levels of governments, along with international organizations, to either mitigate or halt the spread of COVID-19. These public health measures are inclusive of quarantine and lockdown methods, social and physical distancing, contact tracing efforts, and measures taken to provide for the community's wellness in these times. Even though there are o vaccines and treatments as yet available for COVID-19, these public health measures have played a huge role in reducing the number of infections and saving lives.

WHO has advised that the most fundamental requirement to mitigating COVID-19 outbreak is to increase the healthcare capacities and adapting them for the needs of the patients in these times. The ECDC and the European regional office of WHO have provided many guidelines for hospitals and other primary healthcare services for reallocating resources at various levels, including gearing up the laboratory facilities towards COVID-19 testing, making sure COVID-19 positive patients are separated and isolated from the rest, and expanding intensive care capabilities by adequately training personnel and growing the existing number of available ventilators and beds.

There are no specific antiviral drugs approved for COVID-19, but development efforts are underway, including testing of existing drugs. Taking over-the-counter cold medications, drinking fluids, and rest can help relieve symptoms. Several compounds that were previously approved for the treatment of other viral diseases are being studied for use in the treatment of COVID-19. The World Health Organization has also stated that certain "traditional and home remedies" can relieve the symptoms caused by SARS-CoV-19. The availability of health workers also decreases during a pandemic due to illness, death and absenteeism due to fear.

Economic Impact:

Covid 19 is unique in that it is a supply, demand and market shock. The global economy was already in a precarious position in 2019; the risk of global recession in 2020 is extremely high as countries stop their economic activity to limit the spread of Covid 19. As production is limited worldwide, many companies will not have the necessary inputs. A severe demand shock is underway in all discretionary spending categories. The global impact of China's slowdown has been felt all over the world: a Purchasing Manager (PMI) index below 50 indicates recessionary conditions. The virus epidemic has disrupted manufacturing supply chains and greatly reduced demand for energy and raw materials. The International Monetary Fund has declared that the world has officially entered a global recession. Given the magnitude of the reductions in economic activity in several sectors, this is not surprising.

Restaurants are a useful proxy for person-to-person retail activity. World restaurant diners fell 89 percent from the year before March 18. The VIX is an important tool for economists to model the effects of market selling on capital spending. A high VIX is associated with broader corporate bond spreads; higher borrowing costs reduce corporate investment, which in turn reduces GDP. Forecasts are being updated as the situation unfolds. Currently, most economists are expecting a contraction in economic growth of around 2% in 2020, which represents a downside swing of some 4.5 percentage points over previous forecasts.

Impact on Tourism:

As per Philia Tounta, following effects can be attributed to Covid-19 outbreak for the month of March:

- Travel-restriction consequences
- Limitations imposed by quarantines
- A fear against travel, especially air travel
- Fear against any public gatherings
- Phobia of catching a disease abroad
- Difficulties with getting health insurance across borders
- Tourism-enterprise bankruptcies
- Unemployment in tourism sector
- Expensive flights
- Irreparable damage to the reputation of cruise industry

Impact on Global Economy:

It is a belief held by several economists that the economic impact of Covid-19 will be a recession for the second and third quarters of 2020. With travel and tourism, hospitality and entertainment coming to a complete and sudden halt, the industries have taken a massive hit. There is no business in these sectors since people have been under quarantines or lockdowns around the world. The countries that thrive upon the economic milieu generated by these sectors, are under dire economic constraints. Several countries are now facing the same economic backlash as China faced in the month of February. This model is now being seen in countries like USA and Italy, while China has managed to start getting back up on its feet.

In terms of trade, the bans on international travel have been disruptive. More than 50 percent of the global freight trade happens via passenger aircrafts. The American Association of Port Authorities, an alliance of ports of the US, Canada, Caribbean and Latin America has warned that cargo volumes during the first quarter are likely to be down 20% in 2020. As unemployment rises to a peak, USA and UK have witnessed a surge in applications demanding unemployment benefits and government-sponsored incomes.

One instance of the covid-19 economic impact can be seen in the postponement of the much-awaited low-cost iPhone launch by Apple. While initially, the issues were assumed to be lack of Foxcomm's ability to manufacture in current times, as well as the travel restrictions to China that hampered pre-production testing. Furthermore, organizing a launch event at such a time is difficult. Hence, the Apple launch is supposed to be postponed till a few weeks.

Political Impact:

Perhaps the most critical impacts of COVID-19 will be political consequences. Political big names such as Japanese PM Shinzo Abe, USA President Donald Trump, and South Korean president Moon, have been under sharp criticism for the way they have chosen to handle the pandemic situation in their nations. These leaders, among others, have also been accused of misinformation, mishandling and being responsible behind the increased number of cases in their respective countries. The political performance of these leaders in these times is being directly tied to their chances of reelection in the near future. In terms of US, Trump's administration is wary of a possible economic downturn, while there are rumors that Japanese PM Abe will be forced to resign before his term ends. On the opposite side, Taiwan seems to have given a thumbs-up to the handling of the virus as done by its leader Tsai Ing-wen, whose approval rating has significantly increased.

From the view of both economic and political impact, China seems to be right in the center of it. While the ruling party's clampdown on dissent is much alive and censorship still remains active, it is now fairly obvious that Communist Party tried to cover up the extent of the spread of the virus in its early stages. These measures only allowed the virus to fester stronger, and caused it to blow up to the scale it is at today. At the moment, the Party's censorship and repression measures may work in giving it a political stronghold. However, with the virus no being under control and the cases stalled for the moment, the bigger question would be how China dodges economic downturns and regains its strong economic ground.

Religious Impact:

In terms of impact on religion, the ban on public mass-gatherings has applied to congregations in all holy places. Moreover, various festivals, parades and pilgrimages surrounding the observation of religion have also been cancelled to uphold social distancing norms. Adapting to the situation, many key holy sites of different religions have offered services like live-streaming to the worshippers. In critical times, the religious organizations have organized many campaigns and volunteer missions among themselves to offer aid to areas that are affected heavily by the pandemic. In the US, March 15 was designated as the 'National Day of Prayer'.

Possible Long-term Impacts:

Among other long-term consequences, the COVID-19 pandemic has been presumed to result in a "revolution in working from home". This is a direct impact of several companies and businesses shifting to new telecommunication methods, such as Zoom or Microsoft Teams e-conference applications. Since most employees are being encouraged to follow lockdown guidelines and work from home, international business travels and conferences, seminar etc have halted entirely.

In terms of climate change, the pandemic is believed to cause a mixed impact. While the lockdowns have brought manufacturing, transporting etc. to halt, thus resulting in reduction of emissions around the globe, its influence may only be short-lived. The sharp fall in oil prices has also made it tough for dirty oil to compete in the market, hence resulting in a positive change for the short-term. However, it is also true that these emissions are expected to rebound and even multiply, in the times to come after a potential recession. Further, the urgent need of financial and infrastructural resources to fight against the pandemic means that many resources which were previously earmarked for fighting climate change, have now been diverted to the more immediate need. This diversion will result in slowing down the efforts against climate change.

According to a German financial analyst Kohl, a currency crisis will follow the economic and medical crises in Euro Zone. Countries like Italy and Spain are still under massive debt following the 2009 European debt crisis. These countries are expected to require support to avoid bankruptcy situations.

Sentiments like these are echoed in the words of António Guterres, Secretary General of the United Nations, who stated in April 2020 that the coronavirus will result in a global recession "that probably has no parallel in the recent past". In words of World Bank, 'a significant economic pain' is unavoidable in the case of many countries.

Conclusion

The preparation for fighting pandemics presents a unique set of challenges; natural disasters bring factors that are not comparable to other tragedies. These rare events both influence and are influenced by natural environment shifts. Additionally, the preparedness required for pandemics can be a diffuse strategy; and in many cases, the countries at the highest level of risk, are often least-equipped to deal with it effectively. Also, pandemics are not geographically-confined; these are natural disasters gone global. Hence, it becomes an urgent liability to build better, stronger infrastructural capabilities that are geared towards limiting and controlling a pandemic outbreak. This is particularly needed in countries that are at a high risk, of both contracting a disease and spreading it ahead.

The next thing needed for pandemic preparedness is a high awareness level, which requires some complicated coordination and cooperation efforts between bureaucracies- local, national and international. Sectors and disciplines with different styles and levels of training, such as epidemiology, logistics, and medicine and disaster response need to be brought together speedily and effectively. Another important measure to undertake is the number of healthcare workers, to bring resiliency and emergency response measures in the system. It must be remembered that a system such as healthcare is very prone to mortality and morbidity; hence, having a number of workers becomes essential. Lastly, measures must be geared towards emergency planning and better organizational capabilities.

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